Using Digital Evidence to Assess the Risk of Sexual Offending Against a Child

Mitchell D. Kajzer
Indiana University South Bend

Introduction

The Internet represents a completely new form of communication. It provides users with worldwide access to information, instant communication, instant access to files, and a sense of anonymity. For those with deviate interests, such as the viewing, collecting, and trading of child pornography, the Internet has created a medium through which like-minded individuals can seek out one another. This has resulted in a dramatic increase in the number of criminal violations of possession and transportation of child pornography now being committed on the Internet.

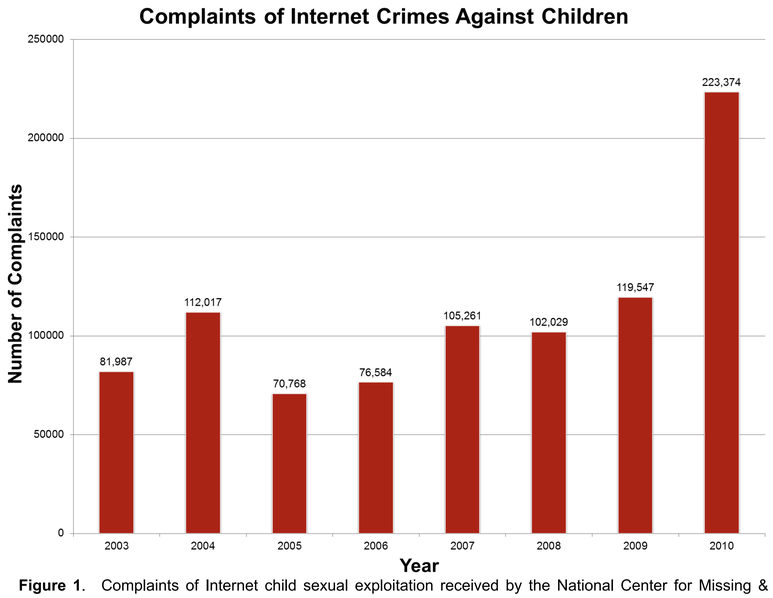

Figure 1. Complaints of Internet child sexual exploitation received by the National Center for Missing & Exploited Children (Michelle Collins, email message to author, March 28, 2011).

While there has been an increase in these offenses, not all Internet child sexual offenders offend for the same reasons (Beech, Elliott, Birdgen, and Findlater, 2008). Four major reasons have been identified:

1. Those with a sexual interest in children.
2. Those who use child pornography as a larger pattern of offending against a child.
3. Those who are curious or impulsive.
4. Those who use child pornography for non-sexual reasons, such as for profit.

Additionally, there are those offenders who commit the entirety of their crime on the computer and never have physical contact with a child (non-contact offenders) and there are those offenders who commit their crime both on the computer and in-person, physically offending against a child (contact offenders). Of these two types of offenders, the contact offender is more egregious.

This study sought to expand on the relationship between the computer activities of contact offenders as opposed to non-contact offenders, seeking distinguishing characteristics between the two groups.

Hypotheses

1. Contact offenders will have a higher ratio of child pornography images to total images than non-contact offenders.
2. Contact offenders will have a higher ratio of child pornography movies to total movies than non-contact offenders.
3. Contact offenders will be more likely to have files that have been renamed than non-contact offenders.
4. Contact offenders will be more likely to have files that are organized and categorized than non-contact offenders.
5. Contact offenders will have chatted online with a greater number of subjects than non-contact offenders.
6. Non-contact offenders will have a more extensive Internet history than contact offenders.

Method

Participants

Data for this study was obtained from archival information related to sexual offenders who had been arrested for an Internet crime against a child. Forensic computer examination reports related to each of these arrests were reviewed. All of these cases were investigated by the St. Joseph County Prosecutor's Office High Tech Crimes Unit between the dates of January 1, 2003 and December 31, 2008. All of these offenses were committed either online (non-contact offenders) or in-person (contact offenders).

Participants were divided into two categories:

1. Contact Offender – Defined as an Internet offender who was convicted of a sexual crime against a child that involved physical or attempted physical contact with the child.
2. Non-Contact Offender – Defined as an Internet offender who was convicted of a sexual crime against a child that did not involve any direct contact with a child.

There were 97 total participants, all of which were male. The ethnic makeup consisted of 94 Whites (97%) and three Hispanics (3%). The age of the participants ranged from 19 to 72 years.

Table 1. Offender Age

Offender Type	n	M_{age}	*SD*
Contact Offenders	45	36.36	10.34
Non-Contact Offenders	52	37.94	11.48
Total Offenders	97	37.21	10.94

Procedure

For each participant, data was collected related to each of the variables. This data was obtained by conducting an audit analysis on forensic computer examination reports and digital evidence related to each arrest. The following data was collected:

1. **Ratio of Child Pornography Images** – The total number of child pornography images on a participant's computer was divided by the total number of images.
2. **Ratio of Child Pornography Movies** – The total number of child pornography movies on a participant's computer was divided by the total number of images.
3. **Instances of Files Being Renamed** – For previously identified child pornography files, the Last Modified date/time stamp was examined. If that stamp was more current than the file's Created date/time stamp, that is an indication that the file has been modified in some manner since being created on the computer. The file names of each file matching this criteria were then checked. If the file consisted of a name that was descriptive in terms of child pornography, it was determined that the file had been renamed.
4. **Instances of Files Being Categorized and Organized** – For previously identified child pornography files, the saved location on the computer was examined. If the file was saved to a user-created directory or to any directory other a default directory, it was determined that the file had been categorized and organized.
5. **Instances of Chatting Online** – From file listings for each participant, a total number of screen names that the participant chatted with was collected.
6. **Quantity of Internet History** – From file listings for each participant, a total number of lines of Internet history was collected.

Results

- The results of the analysis of the ratio of child pornography images trended in the opposite direction as predicted. There were no differences between the groups, t (78) = -1.643, p = .104.
- The results of the analysis of the categorized and organized files trended in the direction as predicted. There were no differences between the groups, t (71) = 1.655, p = .102.
- There were no differences between any of the other variables analyzed.

Table 2. Variable Data

Variable	Offender Type	n	*M*	*SD*
Age	Contact	45	36.36	10.349
	Non Contact	52	37.94	11.488
Image Ratio	Contact	34	.017	.038
	Non Contact	46	.061	.153
Movie Ratio	Contact	31	.034	.084
	Non Contact	37	.065	.160
Files Renamed	Contact	30	1.70	.466
	Non Contact	43	1.72	.454
Files Organized	Contact	30	1.47	.507
	Non Contact	43	1.28	.454
Victim Screen Names	Contact	4	341.75	370.543
	Non Contact	10	266.30	540.640
Internet History	Contact	26	8133.62	7096.818
	Non Contact	30	8118.10	9320.835

Discussion

There were no differences found between the two groups on any of the variables that were analyzed. Results indicated that both groups have many similarities. These findings are consistent with a number of prior studies that have indicated that child sexual offenders are a heterogeneous group (McCarthy, 2010; Glasgow, 2010; Seto & Eke, 2005). Child sexual offenders have many different characteristics but there are few differences between the groups (Howitt & Sheldon, 2007).

Child sexual offenders are a very specific group of offenders. As such, variability with the group is very small. This makes it challenging to determine what differences, if any, exist with the groups. Contact offenders and non-contact offenders exhibited similar Internet activities.

Limitations

- The data used for analysis was a convenience sample obtained from forensic computer examination reports that were prepared by law enforcement. Since these reports were prepared for criminal investigation, not research purposes, many of the reports were missing variables necessary for a complete analysis.
- The data used for analysis was from criminal offenders who had been arrested for a sexual Internet crime against a child. This sample includes only those who have been caught for the offense, not all of those who have committed the offense. The sample may not be representative of Internet child sexual offenders as a population.

Future Direction

- Similar study but with access to the actual physical evidence. This will require a collaboration between law enforcement and social scientists.
- Digital evidence study comparing Adult Sexual Offenders, Child Sexual Offenders, and Non-Sexual Computer Offenders.

References

Beech, A. R., Elliott, I. A., Birgden, A., & Findlater, D. (2008). The Internet and child sexual offending: A criminological review. *Aggression & Violent Behavior*, 13(3), 216-228. doi: 10.1016/j.avb.2008.03.007

Glasgow, D. (2010). The potential of digital evidence to contribute to risk assessment of Internet offenders. *Journal of Sexual Aggression*, 16(1), 87-106. doi:10.1080/13552600903428839

Howitt, D., & Sheldon, K. (2007). The role of cognitive distortions in paedophilic offending: Internet and contact offenders compared. *Psychology, Crime & Law*, 13(5), 469-486. doi: 10.1080/10683160601060564

McCarthy, J. A. (2010). Internet sexual activity: A comparison between contact and non-contact child pornography offenders. *Journal of Sexual Aggression*, 16(2), 181-195. doi: 10.1080/13552601003760006

Seto, M. C., & Eke, A. W. (2005). The criminal histories and later offending of child pornography offenders. *Sexual Abuse: Journal of Research and Treatment*, 17(2), 201-210. doi: 10.1177/10790632050170020

Thank you to Dr. Carolyn Schult, Dr. Kathy Ritchie, Chief Deputy Prosecutor Ken Cotter, and IU South Bend Chief of Police Marty Gersey for assistance with this project.